AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio **to a ratio analogous to that observed in a health subject** in a manner effective to treat said subject for said condition, wherein said parasympathetic activity/to sympathetic activity ratio is increased by increasing activity in at least one parasympathetic nerve fiber and inhibiting activity in at least one sympathetic nerve fiber, wherein said at least one sympathetic nerve fiber is a cardiac nerve fiber.

2. (Original) The method according to Claim 1, wherein said condition is a disease condition.

3. (Original) The method according to Claim 1, wherein said abnormality is an abnormally low parasympathetic activity in at least a portion of said subject's autonomic nervous system.

4. (Original) The method according to Claim 1, wherein said abnormality is an abnormally high parasympathetic activity in at least a portion of said subject's autonomic nervous system.

5. (Original) The method according to Claim 1, wherein said abnormality is an abnormally high sympathetic activity in at least a portion of said subject's autonomic nervous system.

6. (Original) The method according to Claim 5, wherein said parasympathetic activity in at least a portion of said subject's autonomic nervous system is normal.

7. (Original) The method according to Claim 5, wherein said parasympathetic activity in at least a portion of said subject's autonomic nervous system is abnormally low.

8. (Original) The method according to Claim 5, wherein said parasympathetic activity in at least a portion of said subject's autonomic nervous system is abnormally high.

9. (Original) The method according to Claim 1, wherein said condition is chosen from cardiovascular diseases, neurodegenerative diseases, neuroinflammatory diseases, orthopedic diseases, lymphoproliferative diseases, autoimmune diseases, inflammatory diseases, infectious diseases, pulmonary diseases, transplant-related side effects, sleep disorders, gastrointestinal disorders, endocrine disorders, cardiac rhythm disorders, genitourinary disorders, cancer, fibrosis, skin disorders, aging associated diseases, aging associated conditions, autonomic dysregulation diseases, neurologic diseases, conditions related to pregnancy, fibrotic diseases, conditions that cause hypoxia, conditions that cause hypercarbia, conditions that cause hypercapnia, conditions that cause acidosis, conditions that cause acidemia, chronic lung disease, sudden death syndromes, vascular disorders, pediatric diseases and ocular diseases.

10. (Original) The method of Claim 9, wherein said condition is chosen from atherosclerosis, coronary artery disease, hypertension, hyperlipidemia, cardiomyopathy, volume retention, Alzheimer's disease, Pick's disease, dementia, delirium, Parkinson's disease, amyotrophic lateral sclerosis, viral meningitis, viral encephalitis, fungal meningitis, fungal encephalitis, multiple sclerosis, charcot joint; myasthenia gravis, osteoarthritis, inflammatory arthritis, reflex sympathetic dystrophy, Paget's disease, osteoporosis, lymphoma, lymphoproliferative disease, Hodgkin's disease, Graves disease, hashimoto's, takayasu's disease, kawasaki's diseases, arteritis, scleroderma, CREST syndrome, allergies, dermatitis, Henoch-schlonlein purpura, goodpasture syndrome, autoimmune thyroiditis, myasthenia gravis, Reiter's disease, lupus, rheumatoid arthritis, sepsis, viral infections, fungal infections, wound healing, tuberculosis, infection, human immunodeficiency virus, tachypnea, cystic fibrosis, interstitial lung disease, desquamative interstitial pneumonitis, non-specific interstitial pneumonitis, lymphocytic interstitial pneumonitis, usual interstitial pneumonitis, idiopathic

pulmonary fibrosis, transplant-related rejection, transplant-related tachycardia, renal failure, typhlitis; transplant related bowel dysmotility, transplant-related hyperreninemia, insomnia, obstructive sleep apnea, central sleep apnea, hepatitis, xerostomia, bowel dysmotility, peptic ulcer disease, constipation, post-operative bowel dysmotility; inflammatory bowel disease, hypothyroidism, hyperglycemia, diabetes, obesity, syndrome X, sick sinus syndrome, bradycardia, tachycardia, QT interval prolongation arrhythmias, atrial arrhythmias, ventricular arrhythmias, bladder dysfunction, renal failure, hyperreninemia, hepatorenal syndrome, renal tubular acidosis, erectile dysfunction, cancer, fibrosis, wrinkles, cutaneous vasculitis, psoriasis, shy dragers, multi-system atrophy, osteoporosis, age related inflammation conditions, degenerative disorders, headaches, concussions, post-concussive syndrome, coronary syndromes, coronary vasospasm; neurocardiogenic syncope, epilepsy, seizures, stress, bipolar disorder, migraines and chronic headaches, amniotic fluid embolism, pregnancy-related arrhythmias, fetal stress, fetal hypoxia, eclampsia, preeclampsia, chronic obstructive lung disease, emphysema, cardiogenic pulmonary edema, non-cardiogenic pulmonary edema, neurogenic edema, pleural effusion, adult respiratory distress syndrome, pulmonary-renal syndromes, interstitial lung diseases, pulmonary fibrosis, sudden infant death syndrome, sudden adult death syndrome, acute pulmonary embolism, chronic pulmonary embolism, deep venous thrombosis, venous thrombosis, arterial thrombosis, coagulopathy, aortic dissection, aortic aneurysm, arterial aneurysm, myocardial infarction, coronary vasospasm, cerebral vasospasm, mesenteric ischemia, arterial vasospasm, malignant hypertension; primary and secondary pulmonary hypertension, reperfusion syndrome, ischemia, cerebral vascular accident, cerebral vascular accident and transient ischemic attacks, respiratory distress syndrome; bronchopulmonary dysplasia, Hirschprung disease; congenital megacolon, aganglionosis and glaucoma.

11. (Original) The method of Claim 9, wherein said method is employed to treat cardiovascular diseases by applying electrical energy to at least one of the vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, dorsal and ventral rami of spinal nerves, coccygeal ganglia, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, sympathetic nerves to cardiac and pulmonary plexuses, greater splanchnic nerve, lesser

splanchnic nerve, inferior mesenteric ganglion, lumber splanchnic nerves, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

12. (Original) The method of Claim 9, wherein said method is employed to treat a neurodegenerative condition by applying electrical energy to at least one of the vagus nerve, cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, sympathetic nerve and sympathetic ganglia.

13. (Original) The method of Claim 9, wherein said method is employed to treat orthopedic inflammatory conditions by applying electrical energy to at least one of the vagus nerve, spinal nerves, postganglionic fibers to spinal nerves and sympathetic chain ganglia.

14. (Previously Presented) The method of Claim 9, wherein said method is employed to treat neuroinflammatory conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

15. (Original) The method of Claim 9, wherein said method is employed to treat lymphoproliferative conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

16. (Original) The method of Claim 9, wherein said method is employed to treat inflammatory conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

17. (Original) The method of Claim 9, wherein said method is employed to treat infectious diseases by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

18. (Original) The method of Claim 9, wherein said method is a method of treating pulmonary conditions by applying electrical energy to at least one of the vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac plexus, pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

19. (Original) The method of Claim 9, wherein said method is a method of treating gastrointestinal conditions by applying electrical energy to at least one of the vagus nerve, celiac plexus, hypogastric plexus, pelvic nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac plexus, pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve,

inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

20. (Original) The method of Claim 9, wherein said method is a method of treating endocrine disorders by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

21. (Original) The method of Claim 9, wherein said method is a method of treating cardiac rhythm disorders by applying electrical energy to at least one of the vagus nerve, cardiac plexus, pulmonary plexus, cervical sympathetic ganglia and spinal nerves.

22. (Original) The method of Claim 9, wherein said method is a method of treating genitourinary conditions by applying electrical energy to at least one of the vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

23. (Original) The method of Claim 9, wherein said method is a method of treating skin conditions by applying electrical energy to at least one of the vagus nerve, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia and coccygeal ganglia.

24. (Original) The method of Claim 9, wherein said method is a method of treating aging associated conditions by applying electrical energy to at least one of the cranial

nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

25. (Original) The method of Claim 9, wherein said method is a method of treating Th-2 dominant conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

26. (Original) The method of Claim 9, wherein said method is a method of treating autonomic dysregulation conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

27. (Original) The method of Claim 9, wherein said method is a method of treating conditions that cause hypoxia, by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater

splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

28. (Original) The method of Claim 9, wherein said method is a method of treating conditions that cause hypercarbia, by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

29. (Original) The method of Claim 9, wherein said method is a method of treating conditions that cause acidosis by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

30. (Original) The method of Claim 9, wherein said method is a method of treating sleep apnea by applying electrical energy to at least one of the cardiac branches of the sympathetic system, the cardiac branches of the parasympathetic system, baroreceptors in the carotid arch, baroreceptors in the aortic bulb, chemoreceptors in the carotid arch and chemoreceptors in the aortic bulb.

31. (Original) The method of Claim 9, wherein said method is a method of treating cardiac rhythm conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac

plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

32. (Original) The method according to Claim 1, wherein said parasympathetic activity/to sympathetic activity ratio is increased by increasing activity in at least one parasympathetic nerve fiber.

33. (Original) The method of Claim 32, wherein said at least one nerve fiber is a vagus nerve fiber.

34-36. (Canceled)

37. (Previously Presented) The method according to Claim 1, wherein increasing said activity in at least one parasympathetic nerve fiber is performed at the same time as inhibiting activity in at least one sympathetic nerve fiber.

38. (Original) The method according to Claim 37, wherein increasing said activity in at least one parasympathetic nerve fiber is performed before or after inhibiting activity in at least one sympathetic nerve fiber.

39. (Original) The method according to Claim 1, wherein an implanted electrostimulatory device is employed to electrically modulate said subject's autonomic nervous system.

40. (Original) The method according to Claim 1, wherein said method further comprises pharmacologically modulating said at least a portion of said autonomic nervous system.

41. (Original) The method according to Claim 40, wherein said pharmacological modulation is performed at the same time as said electrical modulation.

42. (Original) The method according to Claim 40, wherein said pharmacological modulation is performed before or after said electrical modulation.

43. (Original) The method of Claim 40, wherein said pharmacological modulation is accomplished by the use of at least one pharmacological agent chosen from cholinergics; acetylcholinesteriase inhibitors; magnesium; magnesium variants; catecholamines inhibitors; nicotine; muscarinics; beta-blockers and neurotoxins.

44. (Original) The method of Claim 40, wherein said at least one pharmacological agent is chosen from Bethanechol, Oxotremorine, Methacholine, Cevimeline; Edrophonium, Neostigmine, Donepezil, Tacrine, Echothiophate, Diisopropylfluorophosphate, Demecarium, Pralidoxime, Galanthamine, Tetraethyl pyrophosphate, Parathoin, Malathion, Isoflurophate, Metrifonate, Physostigmine, Rivastigmine, Abenonium acetylchol, Carbaryl acetylchol, Propoxur acetylchol, Aldicarb acetylchol, Muscarine, Pilocarpine, magnesium sulfate, botox and capsaicin.

45. (Original) A computer-readable medium comprising programming for electrically modulating at least a portion of a subject's autonomic nervous system according to Claim 1.

46. (Original) A kit comprising:

(a) an electrostimulatory device; and

(b) instructions for practicing the method of Claim 1.

47. (Original) The kit according to Claim 46, wherein said electrostimulatory device is an implantable device.

48. (Original) The kit according to Claim 46, wherein said kit further comprises at least one pharmacological agent for modulating at least a portion of said autonomic nervous system.

49. (Original) The kit of Claim 48, wherein said at least one pharmacological agent is chosen from cholinergics; acetylcholinesteriase inhibitors; magnesium; magnesium variants; catecholamines inhibitors; nicotine; muscarinics; beta-blockers and neurotoxins.

50. (Original) The kit of Claim 48, wherein said at least one pharmacological agent is chosen from Bethanechol, Oxotremorine, Methacholine, Cevimeline; Edrophonium, Neostigmine, Donepezil, Tacrine, Echothiophate, Diisopropylfluorophosphate, Demecarium, Pralidoxime, Galanthamine, Tetraethyl pyrophosphate, Parathoin, Malathion, Isoflurophate, Metrifonate, Physostigmine, Rivastigmine, Abenonium acetylchol, Carbaryl acetylchol, Propoxur acetylchol, Aldicarb acetylchol, Muscarine, Pilocarpine, magnesium sulfate, botox and capsaicin.

51. (Previously Presented) The kit according to Claim 46, further comprising an introducer needle for introducing said electrostimulatory device into the body of a subject.

52. (Previously Presented) The kit of Claim 46, further comprising a computer-readable medium according to Claim 45.

53. (Previously Presented) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is employed to treat a neurodegenerative condition by applying electrical energy to at least one of the vagus nerve, cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, sympathetic nerve and sympathetic ganglia.

54. (Previously Presented) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is employed to treat orthopedic conditions by applying electrical energy to at least one of the vagus nerve, spinal nerves, postganglionic fibers to spinal nerves and sympathetic chain ganglia.

55. (Previously Presented) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is employed to treat neuroinflammatory conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

56. (Previously Presented) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is employed to treat lymphoproliferative conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX,

sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

57. (Previously Presented) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is employed to treat inflammatory conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

58. (Previously Presented) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is employed to treat infectious diseases by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain

ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

59. (Previously Presented) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is a method of treating Th-2 dominant conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

60. (Previously Presented) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is a method of treating conditions that cause hypoxia, by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

61. (Previously Presented) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is a method of treating conditions that cause hypercarbia, by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

62. (Previously Presented) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is a method of treating conditions that cause acidosis by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

63. (Currently Amended) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio **to a ratio analogous to that observed in a health subject** in a manner effective to treat said subject for said condition,

wherein said method is a method of treating sleep apnea by applying electrical energy to at least one of the cardiac branches of the sympathetic system, the cardiac branches of the parasympathetic system, baroreceptors in the carotid arch, baroreceptors in the aortic bulb, chemoreceptors in the carotid arch and chemoreceptors in the aortic bulb.

64. (Currently Amended) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio **to a ratio analogous to that observed in a health subject** in a manner effective to treat said subject for said condition, wherein said parasympathetic activity/to sympathetic activity ratio is increased by increasing activity in at least one parasympathetic nerve fiber and inhibiting activity in at least one sympathetic nerve fiber,

wherein said condition is chosen from cardiovascular diseases, neurodegenerative diseases, neuroinflammatory diseases, orthopedic diseases, lymphoproliferative diseases, autoimmune diseases, inflammatory diseases, infectious diseases, pulmonary diseases, transplant-related side effects, sleep disorders, gastrointestinal disorders, endocrine disorders, cardiac rhythm disorders, genitourinary disorders, cancer, fibrosis, skin disorders, aging associated diseases, aging associated conditions, autonomic dysregulation diseases, neurologic diseases, conditions related to pregnancy, fibrotic diseases, conditions that cause hypoxia, conditions that cause hypercarbia, conditions that cause hypercapnia, conditions that cause acidosis, conditions that cause acidemia, chronic lung disease, sudden death syndromes, vascular disorders, pediatric diseases and ocular diseases,

wherein said method is employed to treat a neurodegenerative condition by applying electrical energy to at least one of the vagus nerve, cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, sympathetic nerve and sympathetic ganglia.

65. (Previously Presented) The method of Claim 64, wherein said method is further employed to treat orthopedic inflammatory conditions by applying electrical energy to at least one of the vagus nerve, spinal nerves, postganglionic fibers to spinal nerves and sympathetic chain ganglia.

66. (Previously Presented) The method of Claim 64, wherein said method is further employed to treat neuroinflammatory conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

67. (Previously Presented) The method of Claim 64, wherein said method is further employed to treat lymphoproliferative conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

68. (Previously Presented) The method of Claim 64, wherein said method is further employed to treat inflammatory conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

69. (Previously Presented) The method of Claim 64, wherein said method is further employed to treat infectious diseases by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

70. (Previously Presented) The method of Claim 64, wherein said method is a method of treating gastrointestinal conditions by applying electrical energy to at least one of the vagus nerve, celiac plexus, hypogastric plexus, pelvic nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac plexus, pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

71. (Previously Presented) The method of Claim 64, wherein said method is a method of treating endocrine disorders by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

72. (Previously Presented) The method of Claim 64, wherein said method is a method of treating genitourinary conditions by applying electrical energy to at least one of the vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic

nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

73. (Previously Presented) The method of Claim 64, wherein said method is a method of treating skin conditions by applying electrical energy to at least one of the vagus nerve, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia and coccygeal ganglia.

74. (Previously Presented) The method of Claim 64, wherein said method is a method of treating aging associated conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

75. (Previously Presented) The method of Claim 64, wherein said method is a method of treating Th-2 dominant conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

76. (Previously Presented) The method of Claim 64, wherein said method is a method of treating autonomic dysregulation conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal,

postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

77. (Previously Presented) The method of Claim 64, wherein said method is a method of treating conditions that cause hypoxia, by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

78. (Previously Presented) The method of Claim 64, wherein said method is a method of treating conditions that cause hypercarbia, by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

79. (Previously Presented) The method of Claim 64, wherein said method is a method of treating conditions that cause acidosis by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

80. (Previously Presented) The method of Claim 64, wherein said method is a method of treating sleep apnea by applying electrical energy to at least one of the cardiac branches of the sympathetic system, the cardiac branches of the parasympathetic system, baroreceptors in the carotid arch, baroreceptors in the aortic bulb, chemoreceptors in the carotid arch and chemoreceptors in the aortic bulb.